

Underground Distribution Construction Mechanic
(Class Code 3812)
Task List 2024

1. Measures and marks lines for excavations by using a measuring tape, string line and spray paint to clearly mark the dimensions of the concrete area to be sawed and indicate the boundaries of the evacuation site.
2. Breaks and tunnels under pavement using pneumatic pavement breakers, pneumatic clay spades, and pneumatic chipping guns to reach and repair underground ducts, maintenance structures, and vaults.
3. Excavates and trims trenches, manholes and vault excavations to specified dimensions using pneumatic clay spades and sharp shooter shovels sufficient to create a safe work environment.
4. Measures and cuts lumber for hydro-aluminum shoring and installs shoring in the excavation in accordance with State requirements to prevent cave-ins and support the side walls of the trench.
5. Installs electrical conduit on spacers and clears away obstacles such as dirt and debris to prepare the conduit for concrete placement.
6. Visually checks consistency of the ready-mix concrete as it is being poured over the conduit to make sure the water content is of the right consistency to encase the conduit properly.
7. Visually inspects the duct lines for complete encasement while the concrete is being poured to verify they are securely covered (i.e., no holes or tears) so concrete cannot seep into the duct lines when being poured and vibrated.
8. Pours concrete and tamps concrete over and around duct lines, and uses an electric vibrator when pouring concrete to ensure even distribution and coverage.
9. Assists in setting precast manholes and vaults in excavation when delivered by contractors to job sites by:
 - a. installing braces and bolts on panels of the vault
 - b. applying sealant between the joints of the vault
 - c. manually guiding the concrete structure into place.
10. Manually removes shoring by a t-handle release bar, rope slings and plywood pullers prior to backfilling excavations to ensure no leftover materials are left in the work area.
11. Manually backfills and tamps excavations of small trenches and directs the backfilling of larger excavations by pouring slurry.

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12. Lays temporary asphalt paving around the trench bridging system for traffic transition so the public can resume using roadways when construction work has concluded for the day.
13. Uses a mandrill to check the interior of the contractor's newly-installed duct lines for obstructions for future cable pulling.
14. Uses an air compressor to install a polyethylene line through the conduit as a pull cord to use later to pull cable in conduit lines.
15. Hand builds wooden and steel forms for poured-in-place structures and intercept manhole forms or vaults when precast structures cannot be used in order to make specialty-built holes sufficient to make a form.
16. Sets and ties reinforcing steel for floors, walls and roof structures on poured-in-place structures and intercepting manhole forms to provide structural integrity of reinforced concrete.
17. Set bolts and pulling irons in manhole floors and walls or precast manholes to assist with the installation and removal of cables.
18. Sets vaults and manhole castings to street grades and finishes concrete in manhole and vault floors when necessary.
19. Clears excess lumber, blacktop, conduit and debris from streets to clean up and secure the work area after the excavation work is completed.
20. Utilizes a pneumatic pavement breaker or pneumatic chipping gun when enlarging or rebuilding existing energized manholes and vaults to manually remove existing wall(s).
21. Relocates existing duct lines by carefully avoiding energized cables while:
 - a. digging to expose concrete around the conduit
 - b. chipping away the concrete with pneumatic chipping gun
 - c. raising or lowering the conduit per specifications
 - d. re-encasing the conduit in concrete.;
22. Patches interiors with waterplug (quick-drying cement mixture) when seepage occurs in energized manholes and vaults.
23. Patches interior walls, necks, and recesses in energized manholes and vaults with grout (a cement and sand mixture).
24. Repairs concrete sidewalks and curbs broken by construction activities by pouring new concrete to specifications.

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25. Saws through concrete, pavement, and asphalt concrete using a portable hand-held concrete saw prior to excavation.
26. Operates portable power-driven hand and radial arm saws and drills, and pneumatically operated tools such as air spades, tampers, pavement breakers and pneumatic pumps as needed.
27. Operates air compressors, concrete mixers, and automatic equipment, including dump trucks, to remove dirt and debris from excavations.
28. Assists in locating underground conduits through the operation of electric operated pipe locators.
29. Places warning devices such as neon flashers, illuminated delineators, A-frame barricades, and flags and temporary barriers like 'K' Rail around the work area for traffic control and safety.
30. Chips concrete from energized duct banks to intercept conduit in order to prepare for the installation of electrical cables.
31. Replace roofs on energized vaults sufficient to standards as needed.
32. Works inside of energized vaults by adding conduit, ground rods and other materials as needed.
33. Use trench shoring such as pump jacks for hydro shoring to ensure the safety of those who are performing digging and excavation works by providing protection in cases of trench wall failure.